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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,843	01/29/2004	James A. Proctor JR.	TAN-2-1408.01.US	2970
24374	7590	05/24/2010	EXAMINER	
VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			MURPHY, RHONDA L	
			ART UNIT	PAPER NUMBER
			2462	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/767,843	<b>Applicant(s)</b> PROCTOR, JAMES A.	
	<b>Examiner</b> RHONDA MURPHY	<b>Art Unit</b> 2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 22-41 is/are pending in the application.
- 4a) Of the above claim(s) 22-41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This office action is responsive to the communication filed on 3/8/10. Accordingly, claim 21 has been canceled, claims 22-41 have been withdrawn and claims 1-20 and 22-41 are currently pending.

### *Response to Arguments*

1. Applicant's arguments filed 3/8/10 have been fully considered but they are not persuasive. Applicant argues Martin and Giallorenzi fail to disclose a timing controller coupled to the selector that determines a gross timing offset of the selected reverse link signal to align the selected reverse link signal with reverse link signals from other subscriber units using the common code with a phase. However, Examiner respectfully disagrees. As stated below, Martin discloses a timing controller (circuit 22) coupled to the selector that determines a gross timing offset of the selected reverse link signal to align the selected reverse link signal using a common phase (col. 3, lines 29-43, 57-64; col. 4, lines 1-2). Martin fails to explicitly disclose aligning reverse link signals from other subscriber units, and Giallorenzi is relied upon to teach "aligning reverse link signals from other subscriber units". Applicant argues the offset for each user is determined independently by Giallorenzi. However, Giallorenzi, col. 12, lines 18-48 describe, in part, "By estimating the offset of a received signal and providing appropriate feedback to the subscriber unit, it is possible to ask the **subscriber unit to adjust its transmit time or phase slightly to make sure that that subscriber unit stays completely aligned...** The signal coming in to the base station is an

Art Unit: 2462

**aggregate signal which has the sum of all of the signals from all of the users...** Accordingly, it is necessary to be able to identify whether an incoming signal is properly synchronized and to accomplish proper synchronization of one or more subscriber units."

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or

Art Unit: 2462

patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 30 of copending Application No. 10/717,995. Although the conflicting claims are not identical, they are not patentably distinct from each other.

3. Claim 1 of the instant applicant recites an apparatus for controlling timing of a reverse link signal from a subscriber unit comprising (which corresponds to '995 claim 30: *a base station for aligning a field unit*): a receiver that receives a plurality of reverse link signals (which corresponds to '995 claim 30: *receiving a reverse link signal from a field unit*), wherein each said signal includes a common code and unique orthogonal code; a correlator coupled to the receiver that associates a metric with each of the received reverse link signals (which corresponds to '995 claim 30: *calculating a metric associated with the received reverse link signal*); a selector coupled to the correlator that selects the received reverse link signal associated with a best metric (which corresponds to '995 claim 30: *selectively determining based on said metric whether said base station should control the alignment of said field unit*); and a timing controller coupled to the selector that determines a gross timing offset of the selected reverse link

Art Unit: 2462

signal to align the selected reverse link signal with reverse link signals from other subscriber units using the common code with a phase (which corresponds to '995 claim 30: *determining a gross timing offset with respect to reverse link channels from other field units sharing the same reverse link logical channel*)

The instant application and the co-pending application 10/717,995 encompass the same subject matter, wherein the co-pending application has a broader recitation.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 5 – 7, 11, 12 and 15 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (US 6,324,160) in view of Giallorenzi et al. (US 6,332,008) and Hao et al. (US 7,272,163).

**Regarding claims 1 and 11**, Martin teaches an apparatus and method for controlling timing of a reverse link signal from a subscriber unit comprising: a receiver (Fig. 1; antenna 10) that receives a plurality of reverse link signals (col. 2, lines 55-63), wherein each said signal includes a unique orthogonal code

Art Unit: 2462

(Walsh code, col. 3, lines 2-5); a correlator (32) coupled to the receiver that associates a metric with each of the received reverse link signals (col. 4, lines 19-32; power as a metric); a selector (37) coupled to the correlator that selects the received reverse link signal associated with a best metric (col. 4, lines 42-46; strongest signal components); and a timing controller (circuit 22) coupled to the selector that determines a gross timing offset of the selected reverse link signal to align the selected reverse link signal using a common phase (col. 3, lines 29-43, 57-64; col. 4, lines 1-2).

Martin fails to explicitly disclose aligning reverse link signals from other subscriber units.

However, Giallorenzi teaches aligning reverse link signals from other subscriber units in col. 9, lines 33-49 and further described in col. 12, lines 18-48.

In view of this, it would have been obvious to one skilled in the art to modify Martin's system by aligning signals from other subscriber units, so as to enable proper operation of the synchronous communication system.

Martin fails to explicitly teach *a common code*, however common codes are well known in the art.

Hao teaches using *a common code* (col. 2, lines 24-25; PN sequence) and unique orthogonal codes.

Therefore, it would have been obvious to one skilled in the art to include a common code for the purpose of associating the signals with a particular code that is common to the coverage area.

Art Unit: 2462

**Regarding claims 2 and 12**, Martin teaches the apparatus and method according to claims 1 and 11 wherein the timing controller determines a fine timing offset and causes a fine phase adjustment of the common code of the selected reverse link signal (col. 3, lines 29-43).

**Regarding claims 5 and 15**, Martin teaches the apparatus and method according to claims 1 and 11 wherein the selector determines whether a reception quality criterion is met (col. 4, lines 42-46; strongest signal components) and, if met, causes the timing controller to align an unaligned reverse link signal from the given subscriber unit with reverse link signals from other subscriber units (col. 3, lines 29-43).

**Regarding claims 6 and 16**, Martin teaches the apparatus and method according to claims 5 and 15 wherein the reception quality criterion includes at least one of the following: (a) the metric of an un-aligned reverse link signal exceeds a threshold for a predetermined timespan, (b) the metric of an un-aligned reverse link signal exceeds a threshold relative to the best metric for a predetermined timespan, (c) the best metric drops below an absolute metric, and (d) the metric of an un-aligned reverse link signal exceeds an absolute metric (col.3, lines 29-53).

**Regarding claims 7 and 17**, Martin teaches the apparatus and method according to claims 6 and 16 wherein the metrics include at least one of the following: (a) power, (b) SNR, (c) variance of the power, (d) variance of the SNR, (e) relative ratio of the power, SNR, or variance of two paths, (f) bit error rate,



Art Unit: 2462

and (g) energy per chip divided by the interference density ( $E_c/I_o$ ) (col. 4, lines 26-32; power).

1. Claims 3, 4, 8 - 10, 13, 14 and 18 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin, Giallorenzi and Hao as applied to claims 1 and 11 above, and further in view of Hadad (US 2007/0076583 A1).

**Regarding claims 3, 4, 13 and 14**, Martin and Hao teach the apparatus and method according to claims 1 and 11, but fail to explicitly disclose wherein the timing controller provides the gross timing offsets to the subscriber unit in the form of a timing command or report.

However, Hadad teaches wherein the timing controller provides the gross timing offsets to the subscriber unit in the form of a timing command (page 12, paragraph 269).

In view of this, it would have been obvious to one skilled in the art to provide timing offset information to the subscriber in the form of a command or report, for the purpose of correcting its alignment.

**Regarding claims 8 and 18**, Martin and Hao teach the apparatus and method according to claims 1 and 11 further including a power controller (circuits 35 and 36) that determines a power level of the aligned reverse link signal (col. 4, lines 26-32).

Martin fails to explicitly disclose providing feedback of the power level to the subscriber unit.

However, Hadad teaches disclose providing feedback of the power level to the subscriber unit (page 13, paragraphs 285).

In view of this, it would have been obvious to one skilled in the art to provide feedback of the power level to the subscriber, in order for the subscriber to transmit at a power level that allows for more efficient processing at the base station.

**Regarding claims 9, 10, 19 and 20**, Martin and Hao teach the apparatus and method according to claims 8 and 18, but fail to explicitly wherein the power controller provides the power level to the subscriber unit in the form of a power command or report.

However, Hadad teaches wherein the power controller provides the power level to the subscriber unit in the form of a power command (page 13, paragraph 285).

In view of this, it would have been obvious to one skilled in the art to provide the power level to the subscriber in the form of a command or report, for the purpose of notifying the subscriber of an appropriate power level to transmit.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RHONDA MURPHY whose telephone number is (571)272-3185. The examiner can normally be reached on Monday - Friday 9:00 - 5:30pm.

Art Unit: 2462

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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